

**DETECTING A SIGNIFICANT EVENT IN  
EXPERIMENTAL DATA AND USE OF SUCH FOR  
DETECTION OF ENGAGEMENT DURING A  
MECHANICAL TEST**

5                    ABSTRACT OF THE DISCLOSURE

          A method of determining onset of a significant  
event, such as point of engagement, in experimental  
data such as data measured during indenter or  
tensile/compression tests. The measured data is  
10 processed by differentiation and/or integration to  
generate a plurality of processed series. The method  
includes setting an upper bound and a lower bound based  
on thresholds selected as multiples of a standard  
deviation. The significant event is determined from one  
15 or both of the upper and lower bounds. The method can  
include calculating an uncertainty for the significant  
event determination.